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SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

Submitted as a supplement
to the FY 1982 budget

January 1981

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

PROGRAM PURPOSES AND LIST OF GRANTS

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MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

PROGRAM PURPOSES AND LIST OF GRANTS

INTRODUCTION

The Smithsonian Institution's Special Foreign Currency Program makes grants in United States-owned foreign currencies to United States institutions, including the Smithsonian itself, to conduct research projects in the so-called "excess" foreign currency countries. In FY 1980, the "excess" foreign currency countries were Burma, Egypt, Guinea, India, and Pakistan. The Smithsonian program supports research in Archeology and Related Disciplines, Systematic and Environmental Biology, Astrophysics and Earth Sciences, and Museum Programs.

The Smithsonian Foreign Currency Program awards grants when applicants have fulfilled three requirements. These are: 1) the favorable recommendation by a national advisory council of qualified scholars; 2) the concurrence of the appropriate American embassy and host government overseas; and 3) the completion of appropriate cooperative arrangements with host country institutions.

This supplement to the Institution's FY 1982 appropriation request describes: 1) the Smithsonian Foreign Currency Program within the context of the basic Smithsonian purpose; 2) some of the Program's achievements; 3) its goals for FY 1982; and 4) projects for which obligations were incurred during FY 1980.

THE GLOBAL NATURE OF THE SMITHSONIAN'S CHARTER

The purpose of the Smithsonian Institution is "the increase and diffusion of knowledge." This quotation from the will of its founder, James Smithson, was made part of the Institution's enabling legislation enacted by the Congress in 1846, chartering the Institution and leading to the eventual designation of the Institution as the custodian of the National Collections.

The Smithsonian's first Secretary, Joseph Henry, implemented the charter through support of basic research and publication not only in Washington but through a global network of correspondence devoted to these same ends. At the same time, the Institution began to acquire substantial collections of biological and geological specimens and of archeological and ethnographic materials, derived both from its own research and from U.S. Government programs. The Institution continues to conduct research and education programs and to improve its collections. Today the Institution is acknowledged to be a major national resource for the study of natural and cultural history and to be without equal anywhere on earth.

THE FY 1982 APPROPRIATION

For FY 1982, the Smithsonian requests an appropriation of \$5,500,000 equivalent in foreign currencies which have been determined by the Treasury Department to be in excess of the normal needs of the United States. This appropriation will be used to continue a program of grants to United States institutions for research in those countries where excess local currencies are available. Of the total requested, \$2,300,000 will be available for one-year funding of continuing projects, \$700,000 will support new projects, and \$500,000 will provide multi-year funding of projects for which assurance of funding continuity is important. The appropriation request includes \$1,000,000 equivalent in Indian rupees for the third installment to the forward-funded reserve in support of future programs of the American Institute of Indian Studies. The request also includes \$1,000,000 equivalent in Pakistani rupees for the first of four increments of a U.S. contribution for the restoration and preservation of Moenjodaro in Pakistan.

Special Foreign Currency Program Appropriations and the U.S. Taxpayer

An appropriation for this program does not add to the tax burden of Americans because the money used for foreign currency grants comes from U.S. holdings of foreign currencies abroad in existing accounts that were established in connection with the "Food for Peace" (P.L. 480) program. These accounts were generated largely through sales of surplus U.S. agricultural commodities abroad in exchange for local currencies. In cases where these are greatly in excess of the projected normal U.S. needs, the Treasury Department designates them "excess foreign currencies." They then become available through the Special Foreign Currency Program appropriation process for U.S. uses like scientific research.

Erosion of these accounts by inflation is in many countries dramatically reducing their value to the United States. The Indian rupee has lost, for example, more than half of its value since 1970. As a consequence, when a worthy use of these excess currencies can be identified through programs like the Smithsonian Foreign Currency Program, the U.S. can effectively employ at least some of these currencies before inflation effectively eliminates their usefulness.

PROGRAM OF GRANTS FOR RESEARCH

The purpose of the Smithsonian Foreign Currency Program is, like that of the Institution itself, "the increase and diffusion of knowledge." The Smithsonian Foreign Currency Program supports this purpose by making grants to United States universities, museums, and other institutions of higher learning, including the Smithsonian itself, primarily for research and advanced professional training in fields of traditional Smithsonian competence. An appropriation of \$3,500,000 equivalent in excess foreign currencies is sought for these grants.

The Smithsonian program is a major source of excess foreign currency support for research carried out by United States institutions in the excess currency countries. The Smithsonian program is distinguished from other Special Foreign Currency Programs in that the full responsibility for the design, execution and publication of research results rests with a scholar working within the program of a United States institution.

The Smithsonian program strengthens the research and training activities of collaborating institutions abroad, for most projects directly involve host country institutions and scholars. Enduring professional ties which result from joint efforts and scholarly exchange contribute to the strongest form of United States' cultural relations with other nations. These ties contribute to the integration of the worldwide advancement of science which serves to narrow the gap between the industrial and the developing nations.

The Importance of Research in the Natural Sciences and Cultural History

The density of world population and the impact of technological development make it important to understand their effect on the natural environment and on society. Research sponsored by the Smithsonian in the natural sciences and in cultural history is aimed at improving understanding of the environment, of the management and protection of scarce resources, and the cultural setting within which social changes take place.

Grants awarded by the Smithsonian in systematic and evolutionary biology have contributed to the understanding of the individual and the surrounding environment. In FY 1980, grants supported the following projects of special interest:

- continuing study of the fossil mammal fauna of Pakistan is contributing to the understanding of the timing of the closing of the Tethyan Sea and the collision which joined Indo-Pakistan to central Asia.
- study of interdependent organisms in some tropical Indian lakes is leading to the development of management principles for biological productivity in freshwater bodies.
- paleontological investigations in the Fayum Depression of Egypt suggest that man's 30 million year old ancestors were already developing the intelligence to deal with complex social surroundings.

In astrophysics and earth sciences, contributions were made to the study of the earth and its management. For example:

- data from surface surveys and Landsat photographs of the Western Desert of Egypt have uncovered startling similarities to photographs taken of Mars, opening new possibilities for geological interpretation of Mars' topography.

Smithsonian grants in cultural history and in museum programs contribute to the understanding of the individual and society and foster understanding of diverse cultures. In FY 1980, grants supported the following projects:

- study of women's roles in rice cultivation in India is providing important insight for economic development of the industry.
- Indian and Egyptian folk puppeteers participated in the World Puppetry Congress in Washington and toured several U.S. cities promoting added understanding of the diverse cultures of Asia and Africa.

Further, with greater emphasis on information exchange through small workshops, symposia and field conferences, the Smithsonian hopes to promote international research in specialized areas, such as environmental research, wildlife and ecosystem studies, and museum techniques. In FY 1980, for example, U.S. scholars received support for participation in exchanges on the subjects of quaternary geology, the origin of early food producing cultures, and the establishment of science museums.

The Importance of Multi-Year Grants

Since the inception of its Special Foreign Currency Program, the Smithsonian practice has been to provide funding on an annual basis for most of its grantees even though approved proposals are frequently of a multi-year nature. This has been done because until FY 1979 the Smithsonian appropriation was sufficient only to allow for occasional multi-year grants. (Multi-year funding is the standard practice of other Special Foreign Currency Program agencies.) Beginning in FY 1979 multi-year funding of major programs on a regular basis has been possible. Such funding is important for several reasons. Rational planning requires the advance commitment of professors and graduate students as well as of facilities. The broad objectives of the participating institutions also depend on the coordination of such resources. Multi-year grants, with annual disbursement subject to a finding by Smithsonian advisory councils that satisfactory progress in the prior year has been made, are essential to provide reasonable assurance of funding to these institutions. Further, the Smithsonian has found it necessary to undertake multi-year funding on those occasions when it was essential to protect investments in successful projects against the possibility that some excess currency accounts would be exhausted. This happened in Poland and Tunisia in FY 1977 and will occur in Egypt after FY 1981. With multi-year funding over a three-year period, 10 projects in Egypt will be brought to reasonable conclusions in FY 1981 and 3 continuing projects will have gained sufficient time to find other funding sources.

Benefits to United States Institutions

Since the inception of the program in FY 1966, Smithsonian grants have been made to 216 United States institutions in 40 states and the District of Columbia to support approximately 700 individual projects. Publications known to have resulted from program grants totalled more than 1,300 at the end of FY 1980.

Collections of original biological specimens and the archeological and ethnographic materials are acquired in the course of field research. They remain available for further study and interpretation by other generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions have been published. More than 100 such research collections have been placed in United States universities and museums. A similar number of collections has been added to the research resources of the excess currency countries.

The benefits of the program have extended to a far larger number of institutions than the 216 United States institutions which have received grants directly. For example, three of the grantee institutions are consortia of United States scholarly institutions. They are the American Institute of Indian Studies (AIIS) in Chicago, Illinois, with 34 institutional members; the American Research Center in Egypt (ARCE) in New York City, with 26 institutional and approximately 600 individual members; and the American Schools of Oriental Research (ASOR) in Cambridge, Massachusetts, with 135 member institutions.

Smithsonian grants have supported the research in India of 365 AIIS fellows over the 13-year period from FY 1968 through FY 1980. The fellows were drawn from 48 United States institutions in 22 states. Program grants have also supported more than 60 ARCE projects over the 15-year period from FY 1966 through FY 1980, and since FY 1977, 45 ARCE fellows have received Smithsonian support. Nine ASOR excavations in Israel and Tunisia provided research opportunities for more than 260 senior U.S. scholars and field training for more than 324 graduate students. The Indo-American Fellowship Program, initiated in FY 1977 under the auspices of the Indo-U.S. Subcommission on Education and Culture has sent 36 scholars from U.S. institutions to India.

Scientific Review Under the Smithsonian Program

The Smithsonian program considers proposals from any qualified American institution for research in fields of traditional Smithsonian competence. The program seeks the advice of experts in the specific area of sciences to be studied in reviewing the proposals and annually convenes advisory councils of senior scholars from across the nation. Following the recommendation in the House-Senate Conference Report 95-1672 dated September 29, 1978, the National Science Foundation reviews the credentials of the members of the advisory councils and certifies their competence. The councils discuss and evaluate the proposals, taking into consideration the experts' opinions, and provide specific advice to the Smithsonian regarding the selection of proposals recommended for support and the priorities among them.

Foreign currency awards to other institutions are executed as normal Federal contracts, with the American grantee institutions providing for full fiscal accountability. The Smithsonian audits each grantee's periodic financial reports and where grantees maintain records abroad, conducts site audits to ensure that appropriate accounting procedures are followed.

Whether funded originally on a multi-year or on a one-year basis, projects lasting more than one year are subject to an annual review of scientific progress by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when firsthand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

The Importance to the Smithsonian of Awards for Research

Access to funds for independent research is an essential factor in enabling the Smithsonian to attract and retain leading researchers and thereby to maintain a standard of excellence as a research institution. In this context, the Institution's initial request in FY 1966 for an appropriation of excess foreign currencies made it clear that Smithsonian scholars would compete for these funds. The appropriation justification in that year stated that the Institution would "...award and administer foreign currency grants...for maximum benefit of all participating institutions, as well as the Smithsonian." This appropriation has provided Smithsonian scientists an opportunity to pursue new and innovative research.

Under the Special Foreign Currency Program guidelines, Smithsonian proposals are reviewed by the same councils of distinguished scholars as are proposals from other institutions. Continuing projects also are subject to annual reviews. (These processes are described above in the section entitled "Scientific Review under the Smithsonian Program.") The Special Foreign Currency Program awards to Smithsonian employees, as to other scholars, often involve participants from other organizations and universities as collaborators. No Smithsonian employee, nor any other grantee, receives personal compensation to duplicate or supplement his salary. Program awards cover only field research costs in the excess currency country and travel to that country.

The awards to Smithsonian employees are executed as normal Federal allotments to the individual bureaus of the Institution for the support of approved employee research projects. Such funds are expended in accordance with Federal procurement and personnel regulations.

FORWARD-FUNDED RESERVE FOR THE AMERICAN INSTITUTE FOR INDIAN STUDIES

Founded in 1961 by a consortium of 15 United States universities and colleges, the American Institute of Indian Studies' purpose is to promote American scholarship at the pre- and postdoctoral level on India in all

recognized fields of the humanities and the social and natural sciences. Funding for U.S. administration is raised through dues paid by member institutions and from foundation grants from several sources. As of 1980 the number of consortium members has grown to 34 with about 100 fellows in India at any given time, in a variety of programs. Funding for research and local administration in India is primarily through the Smithsonian, with lesser amounts being contributed by the Department of Education (language teaching programs only), National Science Foundation (fellowships in specific disciplines), International Communications Agency (fellowships), and the Ford Foundation.

The Smithsonian and the AIIS share common purposes: education and scholarship, global intellectual understanding and the promotion of research. Research at the Institute takes several forms: individual research in any recognized field; joint projects such as the ones resulting in the publication of the Encyclopedia of India's Philosophies; long-term projects, one of which has been the continuing project at the Center for Art and Archeology at Benares which will make available an archive of photographs, largely of Indian temples and monuments, for students and the scholarly public; and language teaching programs, now given in six of the 14 major Indian languages.

Through its competitive grants program, the Smithsonian has provided annual funding to the American Institute of Indian Studies for fellowships, research, symposia and publications and for administrative costs. The Smithsonian has helped sustain this Institute and other American research centers abroad for more than a decade because of their significant contributions to scholarship and science without regard for national boundaries and their special service to American scholars conducting research.

While the amount of Indian currency available to the U.S. government is still large, it is a finite fund in inactive accounts. With inflation rates in India at a high level, it will probably disappear more quickly than had been anticipated in the past. Various estimates are offered for when this may occur; some suggest as early as five years hence. Since the end of "excess" currency status historically has happened suddenly, the Institution proposes to reserve funds for the AIIS to avoid a situation similar to the one which developed in Egypt. (In late 1978, funds for new American research in Egypt dried up suddenly, placing in doubt the future of American archeology and cultural history studies there and jeopardizing the continued existence of the very successful Cairo Center of the American Research Center in Egypt.)

By building a substantial foreign currency reserve fund now, the Smithsonian hopes to assure that AIIS will be financially secure on a long-term basis, and to encourage other such centers to make the effort necessary to develop funding from other sources for the period beyond that of support by the Smithsonian. Toward this end, for FY 1982, the Smithsonian is seeking \$1,000,000 equivalent in Indian rupees to add to the reserve fund. An amount of \$500,000 in Indian rupees was appropriated in FY 1980 to initiate the fund, and a further amount of \$750,000 was appropriated in FY 1981. The reserve is to be maintained intact, until such time as the depletion of the United States Indian rupee account causes its removal from the "excess" currency list.

Long-term support for the AIIS is feasible and highly desirable. As a result of its long relationship with the AIIS, the Smithsonian has confidence that the mutually acceptable and beneficial working relationship can be continued. The AIIS is a very viable organization, standing in high regard with the Indian Government and the scholarly community.

Future requests are anticipated in succeeding fiscal years aimed at bringing the fund to a level capable of supporting basic AIIS activities for five years after the rupee is declared no longer to be "excess." In each fiscal year the funds will be obligated to AIIS but will not be made available for use until the end of the "excess" designation. Until that time the AIIS will continue to compete for Smithsonian grant funds as they do now and, given their past history of success, can be expected to receive continued support. A system of annual scholarly and financial review will be developed for the administration of the reserve fund.

INTERNATIONAL EFFORT TO SALVAGE MOENJODARO

In 1921, two important discoveries were made in the Indus Valley of India, now Pakistan, when archaeologists discovered the remains of the cities of Harappa, near Lahore, and Moenjodaro, about 250 miles north of Karachi. These two cities apparently are the products of the Harappan civilization which flourished over 4,500 years ago, from about 3000 B.C. to 1500 B.C. Moenjodaro, a city of a square mile, is the larger and more impressive of the two sites. From the standpoint of planning, sanitation and social organization, this city anticipates developments which only blossomed several thousand years later.

The excavated ruins at Moenjodaro have been threatened since their discovery by two main causes of destruction: floods of the Indus River and highly saline ground waters have caused the serious deterioration of the excavated remains.

Since the 1960's, the Government of Pakistan has appealed to the international community for assistance in salvaging Moenjodaro by diverting the river, lowering the water table, providing remedial action to stabilize threatened buildings and preventing disintegration of those that have not yet been seriously damaged, and installing appropriate landscaping. UNESCO responded to Pakistan's appeal and, in 1974, agreed to lead an international fund raising campaign. In the interim, the Government of Pakistan, with the assistance of UNESCO, has conducted a series of technical studies relating to river control, dewatering and other methods conducive to the eventual preservation of the site.

On October 10, 1979, an agreement between UNESCO and the Government of Pakistan for the preservation and development of the monumental site of Moenjodaro was signed. Following this, an Executive Committee of the Campaign was set up to advise the Director - General of UNESCO on all aspects of the project. The Committee has held several meetings during which various aspects of the plans were reviewed. Tender documents are being prepared for water pumps and structures and planting the area with salt-resistant plants to consolidate the soil and provide suitable protection from wind-driven sands. To date, UNESCO has raised approximately \$1.3 million, mainly

from governmental contributions of member states. The funds raised thus far have been deposited in an international trust fund for Moenjodaro. Considering that the total budget for the project is now estimated at more than \$13 million, the Committee is seeking new or additional contributions. The Smithsonian is optimistic that this project, long in the planning stage, will get underway shortly and accordingly the Institution plans to seek a total of \$4,000,000 equivalent in nonconvertible Pakistani currency over a four year period beginning in FY 1982 as the United States' contribution toward this important project. An amount of \$1,000,000 equivalent is requested in FY 1982.

The Smithsonian is making this request because of its traditional interest in archaeology and cultural history. It was the agent for conveying the final United States' contribution to the International Campaign to Save the Nubian Monuments--the successful effort to move the Temples of Philae. The Smithsonian Special Foreign Currency Program has supported the significant archaeological investigations of Moenjodaro and other Harappan sites which have added greatly to knowledge of this civilization.

As with the Nubian monuments of Egypt, preserving the remains of Moenjodaro will be of great benefit to generations of future scholars. The network of scholarly relations between American institutions and their counterparts in Pakistan will be developed and strengthened. Indeed, the maintenance of cultural ties between nations can provide a link which endures through the shifting of other relations and insures continued contact between nations. Finally, support by the United States for the preservation of this unique historic site is in the spirit of the UNESCO convention concerning the protection of the world culture and natural heritage (the World Heritage Convention) which was ratified by the United States in 1973.

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

SUMMARY OF OBLIGATIONS, ACTUAL AND ESTIMATED
FY 1980, FY 1981, and FY 1982

Obligations of Funds by Program Area
(dollar equivalents)

	<u>FY 1980</u> <u>Actual</u>	<u>FY 1981</u> <u>Estimate</u>	<u>FY 1982</u> <u>Estimate</u>
Archeology and Related Disciplines <u>1/</u>	\$3,644,000 <u>1/</u>	\$2,638,000 <u>1/</u>	\$4,600,000 <u>1/2/</u>
Systematic and Environmental Biology	418,000	502,000	531,000
Astrophysics and Earth Sciences	89,000	143,000	121,000
Museum Programs	257,000	309,000	228,000
Grant Administration <u>3/</u>	41,000 <u>3/</u>	20,000 <u>3/</u>	20,000 <u>3/</u>
NSF-Science Information Program (Translations) <u>4/</u>	<u>243,000</u> <u>4/</u>	<u>100,000</u> <u>4/</u>	<u>100,000</u> <u>4/</u>
Total	\$4,692,000	\$3,712,000	\$5,600,000

Obligations of Funds by Country
(dollar equivalents)

	<u>FY 1980</u> <u>Actual</u>	<u>FY 1981</u> <u>Estimate</u>	<u>FY 1982</u> <u>Estimate</u>
Burma	\$ 28,000	\$ 25,000	\$ 75,000
Egypt	1,170,000	725,000	-0-
Guinea	-0-	-0-	5,000
India	3,275,000 <u>1/3/</u> ^{4/}	2,652,000 <u>1/3/</u> ^{4/}	4,070,000 <u>1/3/4/</u>
Pakistan	<u>219,000</u> <u>4/</u>	<u>310,000</u> <u>4/</u>	<u>1,450,000</u> <u>2/4/</u>
Total	\$4,692,000	\$3,712,000	\$5,600,000

1/Includes obligation for AIIS forward-funded reserve: FY 1980, \$500,000; FY 1981, \$750,000; FY 1982, \$1,000,000. In appropriating special foreign currencies for FY 1981, the Congress allowed the Smithsonian flexibility in applying priorities to program areas. Depending upon demands in the grants program during the fiscal year, the Smithsonian may exercise the flexibility allowed by obligating less than the maximum of \$750,000 equivalent for the forward-funded reserve.

2/Includes obligation for U.S. contribution for Moenjodaro: FY 1982, \$1,000,000

3/Includes transfers to the State Department for "Foreign Affairs Administrative Support."

4/Includes transfers to the NSF Science Information Program for translations.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

FISCAL YEAR 1980 - ACTUAL OBLIGATIONS

Actual Obligations by Program Area
(dollar equivalents)

	<u>Research Projects</u> <u>1/</u>	<u>Research Development</u> <u>1/</u>	<u>Total</u>
Archeology and Related Disciplines	\$3,571,000 <u>4/</u>	\$ 73,000	\$3,644,000
Systematic and Environ- mental Biology	363,000	55,000	418,000
Astrophysics and Earth Sciences	80,000	9,000	89,000
Museum Programs	<u>241,000</u>	<u>16,000</u>	<u>257,000</u>
TOTAL FOR RESEARCH	\$4,255,000	\$153,000	\$4,408,000
SFCP Grant Administration <u>2/</u>			41,000
NSF Science Information Program-Translations <u>3/</u>			<u>243,000</u>
TOTAL			\$4,692,000

Actual Obligations by Country
(dollar equivalents)

	<u>Grant Administration and Agency Transfers</u>	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Burma	\$ -	\$ 28,000	\$ -	\$ 28,000
Egypt	-	1,154,000	16,000	1,170,000
Guinea	-	-	-	-
India	284,000 <u>2/3/</u>	2,870,000 <u>4/</u>	121,000	3,275,000
Pakistan	<u>-</u>	<u>203,000</u>	<u>16,000</u>	<u>219,000</u>
TOTAL	\$284,000	\$4,255,000	\$153,000	\$4,692,000

1/ These projects are described in the Grants List which follows.

2/ Includes transfers to the State Department for "Foreign Affairs
Administrative Support."

3/ Includes transfers to NSF Science Information Program for Translations.

4/ Includes \$500,000 obligations for AIIS forward-funded reserve.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

FISCAL YEAR 1981 - ESTIMATED OBLIGATIONS

Estimated Obligations by Program Area
(dollar equivalents)

	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Archeology and Related Disciplines	\$2,603,000 <u>3/</u>	\$35,000	\$2,638,000
Systematic and Environmental Biology	462,000	40,000	502,000
Astrophysics and Earth Sciences	135,000	8,000	143,000
Museum Programs	<u>295,000</u>	<u>14,000</u>	<u>309,000</u>
TOTAL FOR RESEARCH	\$3,495,000	\$97,000	\$3,592,000
SFCP Grant Administration <u>1/</u>			20,000
NSF Science Information Program -- Translations <u>2/</u>			<u>100,000</u>
TOTAL			\$3,712,000

Estimated Obligations by Country
(dollar equivalents)

	<u>Grant Administration and Agency Transfers</u>	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Burma	\$ 1,000	\$ 22,000	\$ 2,000	\$ 25,000
Egypt	10,000	712,000	3,000	725,000
Guinea	-	-	-	-
India	94,000 <u>1/2/</u>	2,479,000 <u>3/</u>	79,000	2,652,000
Pakistan	<u>15,000</u>	<u>282,000</u>	<u>13,000</u>	<u>310,000</u>
TOTAL	\$120,000	\$3,495,000	\$97,000	\$3,712,000

1/ Includes transfers to the State Department for "Foreign Affairs Administrative Support."

2/ Includes transfers to NSF Science Information Program for translations.

3/ Includes \$750,000 obligation for AIIS forward-funded reserve.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

FISCAL YEAR 1982 - ESTIMATED OBLIGATIONS

Estimated Obligations by Program Area
(dollar equivalent)

	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Archeology and Related Disciplines	\$4,562,000	\$38,000	\$4,600,000
Systematic and Environmental Biology	508,000	23,000	531,000
Astrophysics and Earth Sciences	111,000	10,000	121,000
Museum Programs	<u>216,000</u>	<u>12,000</u>	<u>228,000</u>
TOTAL FOR RESEARCH	\$5,397,000	\$83,000	\$5,480,000
SFCP Grant Administration <u>1/</u>			20,000
NSF Science Information Program -- Translations <u>2/</u>			<u>100,000</u>
TOTAL			\$5,600,000

Estimated Obligations by Country
(dollar equivalents)

	<u>Grant Administration and Agency Transfers</u>	<u>Research Projects</u>	<u>Research Development</u>	<u>Total</u>
Burma	\$ 1,000	\$ 70,000	\$ 4,000	\$ 75,000
Egypt	-	-	-	-
Guinea	-	3,000	2,000	5,000
India	99,000 <u>1/2/</u>	3,911,000 <u>3/</u>	60,000	4,070,000
Pakistan	<u>20,000</u> <u>2/</u>	<u>1,413,000</u> <u>4/</u>	<u>17,000</u>	<u>1,450,000</u>
TOTAL	\$120,000	\$5,397,000	\$83,000	\$5,600,000

1/ Includes transfers to the State Department for "Foreign Affairs Administrative Support."

2/ Includes transfers to NSF Science Information Program for translations

3/ Includes \$1,000,000 obligation for AIIS forward-funded reserve.

4/ Includes \$1,000,000 obligation for the U.S. contributions for Moenjodaro.

MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAMS)

STATUS OF FUNDS
(dollar equivalents)

		<u>FY 1980</u> <u>Actual</u>		<u>FY 1981</u> <u>Estimated</u>		<u>FY 1982</u> <u>Estimated</u>
Unobligated Balance, Start of year	+	332,000	+	22,000	+	60,000
Appropriation	+	4,200,000	+	3,650,000	+	5,500,000
Recovery of Prior Years' Obligations	+	182,000	+	100,000	+	100,000
Unobligated Balance, End of year	-	<u>22,000</u>	-	<u>60,000</u>	-	<u>60,000</u>
TOTAL OBLIGATIONS		4,692,000		3,712,000		5,600,000

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS AND RELATED RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)
Fiscal Year 1980

List of Grants

ARCHEOLOGY AND RELATED DISCIPLINES

The study of archeology, anthropology, and related fields such as ethnology, are studies of changes in the human condition brought about by the environment and by cultural factors. Societies such as ours that are undergoing rapid change are subject to increasing pressures to accommodate new factors. These societies must look to studies of the history of man as well as to studies of today's condition to find answers to such questions as:

- a) How have societies responded to similar pressures in the past?
- b) What are those elements in our condition that are biological imperatives or are so culturally interdependent that we dare not change them? For example, is the family unit essential to the survival of our civilization?
- c) What are the current options available to today's societies?

The urgency to understand the forces demanding change in human societies has caused scholars to study man and communities, past and present, for a better grasp of the process of social change.

Projects of United States institutions which contribute to understanding these processes and which received support in FY 1980, are listed below.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
<u>BURMA</u>			
1. 00687400	U. of Illinois	F. Lehman	\$12,200
Intensive study of Old Court or Palace language and the Yaw dialect is expanding knowledge of the linguistic history of the Burmese and the relationships within its family languages.			
<u>EGYPT</u>			
2. FC80425800 Amend. 10, 11, 12 and 14 TX003417 --003418	American Research Center in Egypt, New York, N.Y.	P. Walker	\$963,076 <u>1/</u>

1/ Total for following parenthetical amounts (items 2a through 2h).

The American Research Center in Egypt (ARCE) is a consortium of 26 United States universities and museums and over 600 individual scholars devoted to research and teaching about ancient and modern Egypt. The ARCE is a unique national resource because it is the principal source of money on an annual basis in the United States for the advancement of knowledge and understanding of ancient and Islamic Egypt as well as the training in Egypt of area specialists. Moreover, the ARCE has served the U.S. national interest by sustaining active scholarly collaboration between the U.S. and Egypt during the periods of political stress when other contacts have been interrupted. SFCP support of the ARCE has totalled \$5,840,560 equivalent in Egyptian pounds over a fifteen-year period for the support of research projects. Projects receiving new funds in FY 1980 are listed below.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
a.	American Research Center in Egypt	P. Walker	(\$410,000)

Smithsonian grants to ARCE have supported the Cairo Center which serves as an American scholarly presence in Egypt by maintaining a reference library and by sponsoring lectures and symposia which involve the scholarly community in Egypt. The Cairo Center also provides administrative support for its members' research by obtaining research, import and export permits, housing, supplies and personnel, and by keeping project financial records and by publishing research results.

b.	U. of Chicago	L. Bell	(\$390,571)
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A project that has been continuing for more than fifty years has carefully preserved through color reproductions the rich history of ancient Egypt carved and painted on the surfaces of its temples and monuments. The work is being carried out at Luxor before the monuments there are completely eroded and undecipherable.

c.	U. of California Berkeley	K. Weeks	(\$31,557)
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The preparation of a detailed map of archeological remains in the Theban necropolis on the West Bank at Luxor will provide a very valuable research tool for Egyptologists.

d.	U. of Maryland	C. Butterworth	(\$15,890)
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Averroes or Ibn-Rushd, as he was called in the Arab world, was one of the most important students of Aristotle. His commentaries on Aristotle's work are unequalled. The goal of this project is to edit and publish Arabic manuscripts of Averroes' Middle Commentaries on Aristotle's Organon.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
e.	New York U.	D. Hansen	(\$35,000)

The excavation of the stratified ancient port of Mendes in the Nile River delta involving Greek and Roman settlements dating from 300 B.C. to the early Christian era is providing greater insights into the life of an ancient Mediterranean port town.

f.	American U. in Cairo, N.Y.	G. Scanlon	(\$40,474)
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Conclusion of excavation at Old Cairo site, possibly the residence of one of the famous, historically crucial functionaries known to scholars.

g.	American Museum of Natural History, NY	W. Fairervis	(\$30,998)
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Excavation continues at Hierakonpolis, a major urban complex continuously occupied from 4500 to 1500 B.C. The most sophisticated scientific techniques are being employed in the examination of this little studied period of Egyptian history.

h.	Brigham Young U., UT	S.K. Brown	(\$8,586)
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Development of a project to microfilm the historically important records of the Coptic Orthodox Church in Egypt.

3. FC905581 Amend. 1	U. of Washington	J.L. Bacharach	\$25,617
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Systematic study and production of a catalog of Islamic coins in the National Library at Cairo will provide base data for future numismatic studies.

4. RFTX003958	California State U.	M. Dols	\$4,112
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Edition and translation of Ali ibn-Ridwan's On the Prevention of Bodily Ills in Egypt, dealing with epidemic diseases and historical background of health conditions in eleventh century Egypt.

5. FC70945800 Amend. 3	Herbert H. Lehman College, CUNY	L. Saunders	\$90
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An anthropological re-study of a village in the Egyptian Delta will analyze cultural change since 1962 and determine long-term socio-economic processes and trends.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
6. FC8807164 Amend. 2	U. of Maryland	K. Stowasser	\$4,007

Edition and annotated translation of al-Maqrizi's "The Book of Exhortations and Useful Lessons in Dealing with Lands and Historical Landmarks," a primary scholarly source of the history and topography of medieval, pre-Ottoman Egypt.

7. FC80185500 Amend. 5	Southern Methodist U., Dallas, TX	F. Wendorf	\$66,083
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Geological and archeological studies of the Egyptian desert are establishing a chronology of environmental changes and the appearance and development of early man. This study of the geological past has resulted in discovery of a great quantity of water available at shallow depth, which seems to be a useful source of water for modern agriculture.

INDIA

8. 006139 & Amend. 2 -	American Institute of Indian Studies, Chicago, IL	E. Dimock, Jr.	\$1,031,319
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The American Institute of Indian Studies (AIIS) was founded in 1961 and today has a membership of 34 United States institutions. The AIIS is a unique national resource because it is the principal source of money on an annual basis supporting in the United States the advancement of knowledge and understanding of India as well as the training in India of area specialists. Moreover, the AIIS has served the U.S. national interest by sustaining active scholarly collaboration between the U.S. and India during periods of political stress when other contacts have been interrupted. Disciplines sponsored by the AIIS are increasing from the original concentration on social sciences and the humanities to include the natural sciences as well. Smithsonian support of the AIIS has totalled more than \$5,791,800 equivalent in Indian rupees over a thirteen-year period.

a.	American Institute of Indian Studies	E. Dimock, Jr.	(\$172,607)
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The AIIS provides support for its fellows and for a major language program from a headquarters in New Delhi and small offices in Bombay, Calcutta, Madras, and Poona.

b.	American Institute of Indian Studies	E. Dimock, Jr.	(\$858,712)
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The principal activity of the AIIS has been the appointment of fellows. The SFCP currently provides most of the funds for this fellowship program. AIIS fellows receiving support during FY 1980 are listed below.

Junior Fellows

U. of California at Los Angeles	Elizabeth Goldblatt Peter Manuel
U. of Chicago	Steven Feletti Lynn Hart John Leavitt Brian Smith
Columbia U.	Elizabeth Cook Allan Shapiro
Harvard U.	Bruce Hall Margaret Kane Christopher Minkowski Ellen Oxfeld
U. of Illinois	Stephen Slawek
U. of Michigan	Rohini Prakesh
Ohio State U.	Mary Beth Heston
U. of Pennsylvania	Patricia Mumme Timothy Trexler
Syracuse U.	David Beatty
U. of Washington	S. Ariokathan
U. of Wisconsin	Jose Cabezon Diane Coccari Alice Findlay Jonathan Goldbergbelle Roger Jackson Catherine Meschevitz

Senior, Faculty Training, Professional Development, Short-Term
and Travel Fellows

Ali Akbar Kahn College of Indian Music	Janet Kastelic
American University Fieldstaff	Marcus Franda
U. of Arizona	Tom Gehrels
Art Institute of Chicago	Anne Benolken
Brown U.	William Beeman

U. of California at Berkeley	Melvin Helstien Niloufer Ichaporia Bruce Pray Karine Schomer
U. of California at Davis	Deryck O. Lodrick
U. of California at Los Angeles	Damodar R. SarDesai
California Institute of Technology	Nicholas B. Dirks
U. of Chicago	Colin P. Masica C.M. Naim
Colby College	Deborah Soifer
Columbia U.	Robin Jared Lewis
U. of Connecticut	Joseph Gugler
Cornell U.	Kenneth Kennedy Barbara Lust
Harvard U.	Martha Prickett
Hebrew Arts School of N.Y.	Israel J. Ross
U. of Houston	Pauline Kolenda
U. of Illinois	N. Aggarwal R.V. Pandharipande
U. of Kansas	Richard Cohen Robert Minor
U. of Minnesota	Rocky Miranda Richard Salomon
U. of Missouri	Paul Wallace
New York U.	Owen Lynch
U. of Northern Iowa	Edward Haynes
Oakland U.	Richard P. Tucker
Ohio State U.	John C. Huntington
U. of Pennsylvania	Mitchell Weiss
Rutgers U.	Michael Moffat

Temple U.

Theatre of the Open Eye

Unaffiliated

U. of Washington

U. of Wisconsin

Howard Spodek

Ari Darom

Sharon Lowen

Rosalind Solomon

Gary Michael Tartakov

John Howley

David Knipe

Francis A. Wilson

Phillip Barry Zarrilli

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
9. FC9062100 Amend. 2	American Institute of Indian Studies	E. Dimock, Jr.	\$50,792
The AIIS administers projects of translation, edition, and publication of scholarly texts. In FY 1980, recipients of funds for projects under this grant were:			
	Columbia U.	David Dell	
	Duke U.	Bruce Lawrence	
	U. of Hawaii	Rama Nath Sharma	
	McGill U.	Jayashree B. Gokhale Turner	
	U. of Pennsylvania	Susan Oleksiw Richard Lariviere	
10. 007569	American Institute of Indian Studies	E. Dimock, Jr.	\$500,000
Initiation of a forward-funded reserve to support AIIS programs after the depletion of the U.S. Indian rupee account.			
11. FC806899 Amend. 1	American Institute of Indian Studies	N. Zide	\$7,704
Studies of the Munda languages will contribute to an understanding of cultural contexts in which language changes happen, and the pre-history of eastern and central Indian languages.			
12. RFTX002332 --TX002336	American Institute of Indian Studies	E. Dimock, Jr.	\$4,046
Travel of U.S. participants in the International Symposium on Urdu Short Stories.			
13. RDTX001125	American Institute of Indian Studies	M. Ashton	\$4,517

Documentation of the Krishnanattam dance ritual of Kerala will preserve this disappearing ritual on film.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
14. 002090	American Institute of Indian Studies	H. Schiffman	\$40,930

Participation of U.S. scholars in International Conference on South Asian Languages and Linguistics.

15. 00626400	American Institute of Indian Studies	G. Possehl	\$221,975
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The Center for Art and Archeology at Benares, India, is a vital research facility serving scholars of ancient and modern India from all over the world. The Center was established to apply rigorous scholarly standards to the massive job of photographing and indexing the art collections and the temples and monuments of India which abound in every region of the subcontinent. The archive of more than 30,000 photographs continues to grow as important projects such as the photographing of collections in the India Museum in Calcutta are undertaken.

16. 006738	Asia Society, NY, agent for the American Panel of the Indo-U.S. Subcommission on Edu- cation and Culture	T. Tanen	\$146,663
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The Indo-American Fellowship Program, established in late 1975, was created to widen the circle of scholarly/professional contacts and increase the extent of collaboration between the U.S. and India. Fellowships are granted for research in India, primarily at the postdoctoral or equivalent level with substantial collaboration with Indian colleagues. The fellows who received support in FY 1980 are:

U. of California at Berkeley	Norman Evenson
Cleveland State U.	T. Temple Tuttle
Iowa State U.	Elsa M. Sreenivasam
U. of Kansas	Andrew Tsubaki
Montclair State College	Carol Westfall
Oberlin College	Roderic C. Knight
Unaffiliated	Richard C. Langenbach Murray Libersat

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
17. 00701600	Dumbarton Oaks Center for Byzantine Studies, Wash., D.C.	M. Alexander	\$33,894

The publication of a corpus of tile and stone mosaics from Tunisia is making available a wealth of data on the social, religious, and other cultural and artistic aspects of life in Roman times in Tunisia.

18. RDTX003373 -3374,-3375	Brown U., Providence, R.I.	W. Beeman	\$11,678
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Visual documentation of traditional performance forms in India.

19. 00272500 TX001176	U. of California, Berkeley	J.D. Clark	\$52,522
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Survey of prehistoric land-use in the upper Son Valley, Madhya Pradesh, will provide data for comparison with paleo-ecological events in Africa, showing to what extent cultural development in the subcontinent may have paralleled that in tropical Africa where current evidence predicts the development of humankind.

20. RFTX001557 & Amend. 1	U. of Washington	P. Brass	\$1,793
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Travel of Dr. D.P. Singh, Vice-Chancellor, Rajendra Agricultural University, to participate in the AAAS Symposium on the Science, Values, and Politics of Agrarian Change in South Asia at San Francisco.

21. RFTX000127	U. of California, Berkeley	G. Dales	\$2,400
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Travel of D.P. Agrawal, Physical Research Laboratory, Ahmedabad, to U.S. to confer with U.S. specialists on carbon-dating and related techniques.

22. RFTX003811	Bernard M. Baruch College, N.Y., N.Y.	E. Eames/ P. Saran	\$19,950
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The changing role of the District Magistrate and/or Deputy Commissioner in India will be examined through interviews with British and Indian officials of the period of British occupation along with parallel officers of the present Indian administration.

	<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
23.	FC90377000 Amend. 2, RDTX004261, --TX004262	U. of Wisconsin	J. Elder	\$147,694

Preparation of documentary films on selected aspects of contemporary South Asian civilizations.

24.	RFTX00896, & Amend. 1, --TX00897 -943,-944, -1029,-3419 -3420	U. of Illinois	H. Gould	\$19,858
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Seven U.S. scholars, specialists in Indian politics, observed the January 1980 parliamentary elections in India, developing data on various aspects of the occurrence.

25.	RFTX003921	Harvard U.	O. Grabar	\$6,764
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Photographic documentation of Humayun's Tomb, the first major Mughal monument built in India.

26.	ST008072000	American School of Oriental Research, Cambridge, MA	J. Humphrey	\$7,000
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Publication of materials resulting from excavations in Roman Carthage.

27.	RDTX003275	Herbert H. Lehman College, CUNY	C. Kramer	\$6,625
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A detailed study of contemporary ceramic production will have useful application in the analysis of ethnographic and prehistoric data.

28.	FC809478 Amend. 2	Herbert H. Lehman College, CUNY	J. Mencher	\$2,711
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Symposium on social anthropology of peasantry, considering general theoretical issues and specific historical cases.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
29. 00606800	Herbert H. Lehman College, CUNY	J. Mencher	\$63,233

Anthropological investigations in three traditional rice-producing regions of India will outline the involvement of women in Indian agriculture.

30. RFTX000860	Dartmouth College Hanover, NH	D. Neuman	\$3,406
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Publication of the proceedings of the symposium on the anthropology of music convened in connection with the 10th International Congress of Anthropological and Ethnological Sciences.

31. 00776100	U. of Pennsylvania	G. Possehl	\$22,800
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Archeological exploration of Harappan settlements in northwestern India is contributing to the understanding of the shift away from urbanization during the second millennium B.C. in western South Asia.

32. RFTX003570	U. of Pennsylvania	G. Possehl/ N. Orton	\$5,210
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Observation of construction of traditional wooden vessels in a small community in northwest India will initiate a long-term integrated social, economic, and technological study of traditional boat building in India.

33. RFTX00626, Amend. 1	U. of Connecticut	R.P. Rohner E.C. Rohner	\$6,522
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An anthropological study of family interaction and psychosocial development of six through 12 year old children in three communities in India.

34. RDTX001089	Menninger Foundation, Topeka, KS	N. Shand	\$1,800
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The impact of culture through maternal behavior on infant development will be studied in India, to provide comparative data for similar investigations in the U.S. and Japan.

35. 00690900	U. of Pennsylvania	F. Southworth	\$25,515
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A comprehensive investigation of linguistic evidence for prehistory in the subcontinent will add a new tool for the interpretation of South Asian prehistory.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
36. RFTX001841, -1842,-1843, -1844,-1845, -1846,-1847	U. of Pennsylvania	F. Southworth	\$14,400

Travel of Indian participants in the symposium on "Approaches to Social Change in South India: Research and Applications."

37. RFTX903518, Amend. 1	U. of Pennsylvania	B. Spooner	\$191
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Edition and publication of the proceedings of the conference on the global ecological problem of desertification, convened in connection with the 10th International Congress of Anthropological and Ethnological Sciences.

38. RFTX003721, -722,-735, -736,-737, -767,-810	Social Science Research Council, New York, N.Y.	D. Szanton	\$15,439
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Travel of U.S. participants in conference on models and metaphors in Indian folklore.

39. RFTX001030, Amend. 1, --TX001031, Amend. 1 & P.O. 005037	Southern Methodist U.	F. Wendorf	\$18,206
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Publication of research results of Prehistory of Egypt project.

PAKISTAN

40. RDTX004981, -4982,-4983	Wesleyan U., Middletown, CT	R.L. Keiser	\$14,555
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Development of an ethnographic survey on social organization, languages and population patterns of tribes in northwest frontier and northern area of Pakistan including groups affected by current problems in Afghanistan.

41. RDTX003365	U. of Pennsylvania	M. Meister	\$1,120
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Documentation of architectural and sculptural riches of Pakistan will include Buddhist, Hindu and Islamic monuments.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
42. RFTX001824, -1825,-1848 -1849,-1850	Smithsonian Institution	W. Trousdale	\$54,887

Examination of the techniques of early mining and smelting in Pakistan is expected to determine the relationship of smelting sites in Afghanistan with early metallurgy in the Indus Valley and Baluchistan.

SYSTEMATIC AND ENVIRONMENTAL BIOLOGY

For much of our history as a nation, we have regarded technology as the key to the betterment of the human condition. It is a concept that once stood virtually unquestioned and which has profoundly influenced changing cultural patterns around the world. Today, however, it is becoming increasingly obvious that technology exacts its price, one that is multiplied by new levels of population. Biological scientists who once concerned themselves with laying the brick-work of the edifice of human knowledge now find themselves with a new responsibility. We now know that it is imperative to establish norms for our environmental systems, to monitor changes, and to predict the consequences of social policies that may have an injurious environmental impact. American scientists are again the leaders in international research efforts in these new fields. Through the long-term collaborative relationships between American and foreign institutions and scholars, research conducted under the Smithsonian Foreign Currency Program serves as a foundation for the intense efforts that will be required to solve the problems of biological science that transcend national boundaries.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
<u>BURMA</u>			
43. RFTX002334	Los Angeles County Natural Hist. Mus.	D. Reynolds	\$1,167

Systematic studies of the foliicolous fungi of Burma will contribute to a world mycoflora.

44. RFTX00196, 197	U. of California at Berkeley U. of N. Carolina	D. Savage R. Ciochon	\$14,321
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Stratigraphic and paleobiologic investigations of fossil anthropoid sites in Burma is uncovering new information on primate origins in Asia.

45. RDTX001175	Smithsonian Institution	T. Soderstrom	\$175
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Systematic study of the bamboos of Burma will result in base data on that country's most important economic plant.

EGYPT

46. RDTX001994, -2335,-2337	Smithsonian Institution	E. Ayensu	\$7,205
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Development of a collaborative ecological survey of the Sinai before widespread development of the area seriously affects the ecosystem.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
47. FR6-5008	U. of Michigan	J. Burch	\$181

Research into the freshwater snails of Africa, Genus Bulinus, is providing the basic systematic, geographic, and ecological data for the eventual control of these carriers of schistosomiasis, a serious public health problem.

48. FC8094700 Amend. 2	Duke U.	E. Simons	\$28,600
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The Fayum Province of Egypt is the only accessible site in Africa for recovery of land vertebrates dating to the Oligocene epoch some 35,000,000 years ago. Quarrying of this site promises to expand our knowledge of the early primate ancestors of man and related primates and to improve our understanding of their ecological setting.

INDIA

49. RDTX001435, -1436,-4024	Smithsonian Institution	E. Ayensu	\$9,898
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Development of a workshop and research program on endangered plants of economic value in India.

50. RDTX003088	Columbia U.	A. Be	\$3,156
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Development of collaborative programs in marine geology and biology will integrate studies undertaken during and after the International Indian Ocean Expedition.

51. RDTX903655 Amend. 1 & RFTX003959	Our Lady of the Lake U.	D. Belk	\$7,020
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Study of the zoogeography of the Anostraca (shrimps) of south India.

52. RDTX001345	Pomona C.	W. Bertsch	\$3,189
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Artificial induction of flowering in bamboos will provide an important new tool for systematic studies of this economically important plant.

53. RFTX000117, -198,-432	U. of N. Carolina U. of Michigan Howard U.	R. Ciochon P. Gingerich S.T. Hussain	\$6,780
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U.S. participation in the Field Conference on Neogene/Quaternary Boundary in India.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
54. RFTX00121	Smithsonian Institution	W. Eberhard	\$2,113

Field observation of web-building behavior of orb-weaving spiders.

55. RFTX001636, -1637	Smithsonian Institution	R. Higgins	\$5,849
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Study of the interdependence of living organisms in some tropical fresh-water Indian lakes is developing principles of management of biological productivity in these lakes and comparing results with similar studies of temperate lakes in North America, contributing to understanding the processes of life in all bodies of freshwater.

56. 00272400	Harvard U.	D. Hrdy	\$86,100
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Integrated field studies on behavior, disease, and genetics will be undertaken on the Hanuman langur in Rajasthan.

57. RFTX003101	Smithsonian Institution	A. Johnsingh	\$2,300
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Travel to undertake fellowship at the National Zoological Park to study methodology for immobilization-assisted ecological and behavioral research.

58. RDTX001325	Smithsonian Institution	D. Kleiman	\$2,113
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Development of a cooperative program of wildlife research, management and training programs.

59. RFTX001714, -1715	Smithsonian Institution	K. Krombein	\$7,278
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An examination of entomological specimens at the University of Agricultural Sciences, Bangalore is providing comparative material for related studies in Sri Lanka.

60. RFTX000456, -457,-458 -459,-460	Rutgers, The State U.	K. Maramorosch	\$6,168
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Participation of Indian scientists in the III Workshop of the International Union of Forestry Research Organization.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
61. RDTX000949	U. of California, Berkeley	L. Packer	\$2,900

Development of collaborative research on the energetics of salt-tolerant plants.

62. RDTX001415	Missouri Botanical Garden	P. Raven/ T. Ramamoorthy	\$2,780
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Development of collaborative research on the biosystematics of the family Onagraceae as part of a broad scale program to revise the Flora of India.

63. RDTX003957	Oregon State U.	F. Rickson	\$6,110
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Study of mite species which inhabit hairy areas or pits (domatia) on the lower surface of certain woody dicotyledon leaves will establish whether the mites function in a protective capacity by preying on other animals or by eating fungal spores.

64. RDTX000195	Smithsonian Institution	M. Roberts	\$400
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Examination of skeletal collections of red pandas in Indian museums will provide comparative data for ongoing studies in the U.S.

65. RFTX902681, Amend. 1 & -780	Smithsonian Institution	M. Sivadasan	\$2,798
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Continuation of research on the Araceae of Southwestern India.

66. RDTX001175	Smithsonian Institution	T. Soderstrom	\$5,462
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Study of old world bamboos in Indian herbaria will provide comparative materials for earlier studies in Sri Lanka.

67. RDTX003583, -3584	U. of Miami	H. Teas	\$8,935
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Determination of the kinetics of nitrogen cycling in a mangrove estuary in Western India, is the first step in developing management criteria for mangrove systems, important buffers against shoreline erosion.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
68. RDTX003734	Milwaukee Public Museum	R. West/ T. Munthe	\$2,432

Development of fossil studies in northwestern India for further interpretation of evolutionary knowledge of South Asia.

69. RFTX000120	Smithsonian Institution	M. West-Eberhard	\$2,225
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A study of the social wasps of India focussing on aspects of colony organization will provide comparative data for ongoing studies on New World genera.

70. RFTX000118, 119, -120,-121	Smithsonian Institution	M. West-Eberhard	\$12,128
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Participation of U.S. scientists in an Indian workshop on the evolution of social behavior.

71. RFTX003859, -3860,-3861, -3862,-3863, -3864,-3865, -3866,-3867, -3868,-3869, -3870,-3871	Smithsonian Institution	D. Whigham	\$30,012
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Travel of U.S. participants in the International Wetlands Conference, to synthesize and coordinate wetland research and to provide forums for interactions between scientists and wetland managers.

PAKISTAN

72. RDTX004024	Smithsonian Institution	E. Ayensu	\$610
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Consultation on the development of endangered plant species programs.

73. RFTX003140	Smithsonian Institution	F. Fosberg	\$3,586
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Comparative information for botanical studies in Sri Lanka will be sought in Pakistani herbaria.

74. FC809484, Amend. 4 00845700	U. of Michigan	P. Gingerich	\$38,907
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A search for Paleocene and Eocene (55-65 million year old) fossil mammals in Pakistan will substantially contribute to our knowledge of the evolution of mammals and their geographic distribution.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
75. 00352800	Howard U.	S.T. Hussain	\$52,800

Field studies of recently discovered vertebrate fauna from the Miocene lower Siwaliks of Pakistan, includes six families of rodents and two of insectivores some of which are new to South Asian fossil deposits.

76. RDTX003139	Smithsonian Institution	K. Krombein	\$3,678
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Consultation with specialists at the Commonwealth Institute of Biological Control is providing comparative information for entomological studies in Sri Lanka.

77. RFTX001713, FC90881700 Amend. 2	Yale U.	D. Pilbeam	\$48,703
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In a search for fossils of small and large animals in Pakistan, particularly for primates dating from the time of man's earliest development, a collaborative effort between Yale University and the Geological Survey of Pakistan is striving toward a better understanding of the evolution of man.

ASTROPHYSICS AND EARTH SCIENCES

The study of astrophysics and earth sciences is the study of man's available energy and mineral resources. Studies of the stars and their origins reveal much about the origin, composition, behavior and fate of the Earth. The forces governing the stars are the same as those governing the star which is our Sun. The Earth was born of solar minerals, and the Sun remains the source of all energy, fossil or otherwise, available to man today. Uranium, for example, which provides the fuel for atomic power plants, is present in the Sun as well as in the earth. Coal and oil are fossil remains of plants and animals which once relied on sunshine for life, just as all life does today.

Studies, like those listed below, which received Smithsonian Foreign Currency Program support in FY 1980 are contributing to knowledge essential to meet man's future energy and mineral needs, to understand and predict such natural phenomena as earthquakes, and to foster space age developments. Such projects help host nations, particularly the developing nations, improve their scientific output while providing United States institutions with collaborators, facilities or field research opportunities essential to the conduct of such studies, judged most likely to advance man's knowledge of his available energy and mineral resources.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
<u>EGYPT</u>			
78. RFTX001337, -1338,-1339, -1340,-2135, -2136,-2192, -3925	Smithsonian Institution	F. El Baz	\$10,063

Data from surface surveys in the Western Desert of Egypt is being compared with information from satellite photographs to provide a description of desert erosion and sand movement for use in efforts to reverse nature's "desertization" process.

79. FC90878700 Amend. 1	U. of Arizona	C. Haynes	\$172
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Geological investigation of quaternary deposits of the Nubian Desert to understand the factors controlling prehistoric occupation of the area and to predict future man-climatic factors on land use and conservation.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
80. FC70225900 Amend. 2	Smithsonian Institution	M. Pearlman	\$27,900

The operation of an Egyptian satellite tracking facility at Helwan Observatory adds another link in the Smithsonian Astrophysical Observatory's global tracking network which supports studies of the earth's motion and magnetism and of the upper atmosphere.

81. RFTX002163, -2164,-2338, -2339	Smithsonian Institution	D. Stanley	\$10,634
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The Nile River has historically deposited large volumes of rich sediment on its bank and in the Mediterranean. The construction of the Aswan Dam has almost eliminated these deposits. A cooperative oceanographic study will seek to ascertain the effect of this man-made environmental change on the Mediterranean Sea floor at the mouth of the Nile.

INDIA

82. RDTX001341, -1342,-1343, -1344	Smithsonian Institution	F. El Baz	\$16,264
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Geomorphological survey of the Rajasthan desert will include studies of desert land forms and the effects of human habitation on the dynamics of arid regions.

83. RFTX000689, -690	U. of Arizona	G. Goles	\$3,820
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Participation of U.S. scholars in the International Group Discussion/Symposium on Deccan Volcanism and Related Basalt Provinces.

84. RFTX001033, -1513	U. of Maryland	M. Kundu	\$7,009
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Radioastronomical studies of the total solar eclipse in India will provide data on the brightness distribution of the sun.

85. RFTX902588, Amend. 1	Smithsonian Institution	A. Mani	\$285
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Travel of Indian participants in the International Solar Energy Society Congress held in Atlanta, Georgia.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
86. RDTX002883	U. of Chicago	D. Schramm	\$2,861

A collaboration between theoretical astrophysicists in India and the U.S. will concentrate on the latest developments relating to quasars, supernovae, pulsars, neutron stars, black holes, and the Big Bang theory.

87. RFTX003416	U. of Wisconsin	V. Sharma	\$3,619
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Comprehensive study of the books, manuscripts and instruments of Maharaja Sawai Jai Singh, the most distinguished astronomer of medieval India.

88. RFTX002790, -3099	Smithsonian Institution	M. Pearlman	\$6,338
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Development of the current satellite tracking station at Naini Tal into a laser tracking operation will significantly upgrade the station's capability and geographically augment the current laser network.

MUSEUM PROGRAMS

The scope of museum activities is growing and changing. The traditional museum role has been the care and preservation of scientific specimens and cultural objects for study and reevaluation as new techniques and data become available. Today museums also have a growing role in the transmission of man's cultural heritage to future generations, a role belonging traditionally to universities. They also play a growing role in communication between present-day cultures, drawing together peoples of different lands when language barriers prevent exchange of basic information. Museums are now making more use of their skilled personnel and their collections for popular education. Increasingly, museums are broadening the interpretation of museum collections to include living cultural traditions such as crafts and the performing arts.

Projects like those listed below, which received Smithsonian Foreign Currency Program support in FY 1980, support both the traditional and the newer roles of museums. These projects respond to those needs of the museum profession not met within the natural sciences and cultural history areas of the Smithsonian Foreign Currency Program.

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
<u>EGYPT</u>			
89. RFTX001224 -1226,-1227 -1228,-1229 -1230	Smithsonian Institution	E. Atil	\$11,176

A survey of Islamic art of the Mamluk period (1250 to 1517 A.D.), particularly the architectural monuments of Cairo, was undertaken as a preliminary step in the development of an exhibition and documentary film as well as scholarly examination of the material.

90. RFTX002825	Puppeteers of America, Wash. D. C.	N. Staub	\$11,600
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A survey of cross-cultural folk traditions using folk puppets to promote international understanding among diverse cultures of Africa and Asia.

INDIA

91. RDTX001437	Carnegie Museum of Natural History	C. Black	\$2,620
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A continuing program of museum professional exchange between Carnegie Museum of Natural History and the Natural History Museum in New Delhi has provided training in exhibit planning and construction, taxidermy, and plant preparation and storage.

	<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
92.	FC80363800 Amend. 4	American Institute of Indian Studies	J. Gutman	\$2,552

Examination of 19th and early 20th century photographs in India will enable scholars to reconstruct the social history of the period.

93.	RDTX002884	International Mus. of Photography at George Eastman House	D. Patnaik	\$7,348
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Organization of an exhibition of post-independence Indian photography.

94.	RFTX001514	Smithsonian Institution	P. Perrot	\$2,460
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U.S. participation in the "Workshop on the Establishment of Science Museums in Asian Countries - Training and Exchange" sponsored by UNESCO, ICOM and the Indian National Council of Science Museums.

95.	RDTX000818	Puppeteers of America	N. Staub	\$9,833
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A survey of cross-cultural folk traditions using folk puppets to promote international understanding among diverse cultures of Africa and Asia.

96.	002471	The Asia Society (As agent for Indo- US Subcommission on Education & Culture)	T. Tanen	\$149,500
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Development of museum professional programs and exchanges under the Indo-US Subcommission on Education and Culture.

97.	002472	The Asia Society (As agent for Indo- US Subcommission on Education & Culture)	T. Tanen	\$60,000
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Preparation of a film for a major exhibition on the "Manifestations of Siva" at the Philadelphia Museum of Art will present the history, culture and values of the people of India.

SFCP GRANTS ADMINISTRATION

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
<u>INDIA</u>			
98. 19X4519-8690 80708800, Amend 2	Smithsonian Institution		\$31,581
Indian rupees were transferred to the State Department for Foreign Affairs Administrative Support, the costs incurred by the State Department in providing administrative support to Foreign Currency Program grantees in the excess currency countries.			
99. TX004137 TX0001124 TX001695	Smithsonian Institution		\$9,629
This obligation supported inspection and audit of research projects and liaison with host country governments by Smithsonian staff and advisors.			

TRANSFER TO NATIONAL SCIENCE FOUNDATION (NSF)

<u>Obligation Number</u>	<u>Institution</u>	<u>Principal Investigator</u>	<u>\$ Eqv.</u>
100.	NSF, Science Information Program		\$243,077

Indian rupees were transferred to NSF for translations of publications of priority interest to scholars conducting research in the natural sciences and cultural history.

SMITHSONIAN INSTITUTION LIBRARIES



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